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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,566	10/19/2001	Rick C. Stevens	LMCO.010PA	1829
40581	7590	05/19/2005		EXAMINER
CRAWFORD MAUNU PLLC 1270 NORTHLAND DRIVE, SUITE 390 ST. PAUL, MN 55120				LI, SHI K
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/045,566	STEVENS, RICK C.	
	Examiner	Art Unit	
	Shi K. Li	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 February 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama (U.S. Patent 5,801,860) in view of Yoshida et al. (U.S. Patent 6,480,308 B1) and Helms et al. (U.S. Patent 6,643,466 B1).

Regarding claims 1-2 and 8-9, Yoneyama discloses in FIGs. 5-8 a method for setting power level for a transmitter based on information about power level measured at remote receiver wherein the power level information is carried over a feedback channel. Yoneyama further explains in FIG. 9 that the feedback channel is just a channel in a transmission system in opposition direction of the first transmission system of FIG. 5. The differences between Yoneyama and the claimed invention are (a) Yoneyama does not teach to send a sequence of messages of increasing power levels and (b) Yoneyama does not teach to transmit output-power code that indicates an output power level.

Yoshida et al. teaches in col. 2, lines 3-41 that it is not desirable to transmit excessive power due to laser diode lifetime and safety considerations. Yoshida et al. teaches in FIG. 4 and FIG. 5 to send test data of increasing power level to remote receiver until a positive feedback is received from the remote receiver. One of ordinary skill in the art would have been motivated to combine the teaching of Yoshida et al. with the power level setting method of Yoneyama

because the method of Yoshida et al. avoids sending excessive optical power. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send a sequence of messages with increasing power level for finding an optimal power level, as taught by Yoshida et al., in the power level setting method of Yoneyama because the method of Yoshida et al. avoids sending excessive optical power.

The modified power level setting method of Yoneyama and Yoshida et al. still fails to teach transmitting output-power code that indicates an output power level. Helms suggests in FIG. 3 to send data about power level of output laser beam to remote receiver in feedback power level control system. One of ordinary skill in the art would have been motivated to combine the teaching of Helms with the modified power level setting method of Yoneyama and Yoshida et al. because there is delay in receiving feedback power information from the remote receiver such that at the time a feedback power information message is received, the transmitter may have already transmitted at a higher power level. Transmitting the transmitter power level enables the remote receiver to include the transmitter power level in a feedback message which correlates the transmitter power level and the received power level so that the transmitter can correctly set the power level. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send transmitter power level in the sequence of messages with increasing power level, as taught by Helms, in the modified power level setting method of Yoneyama and Yoshida et al. because it allows the correlation between the transmitter power level and received power level so that the transmitter can correctly set the power level.

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3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama, Yoshida et al. and Helms et al. as applied to claims 1-2 and 8-9 above, and further in view of Suzuki et al. (U.S. Patent 5,517,608).

Yoneyama, Yoshida et al. and Helms et al. have been discussed above in regard to claims 1-2 and 8-9. The difference between Yoneyama, Yoshida et al. and Helms et al. and the claimed invention is that Yoneyama, Yoshida et al. and Helms et al. do not teach to set the power level above the power level at which power-level message is first received. Suzuki et al. teaches in FIG. 4-5 an algorithm for determining a power level. Suzuki et al. teaches in col. 7, lines 40-42 to set a level slightly higher than the value determined by the algorithm to give a little margin. One of ordinary skill in the art would have been motivated to combine the teaching of Suzuki et al. with the modified power level setting method of Yoneyama, Yoshida et al. and Helms et al. because the approach of Suzuki et al. gives a margin for power level variation due to temperature and aging of laser diode. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to set power level slightly higher than value determined by a test, as taught by Suzuki et al., in the modified power level setting method of Yoneyama, Yoshida et al. and Helms et al. because the approach of Suzuki et al. gives a margin for power level variation due to temperature and aging of laser diode.

4. Claims 4-6 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama, Yoshida et al. and Helms et al. as applied to claims 1-2 and 8-9 above, and further in view of Batey, Jr. et al. (U.S. Patent 6,104,512).

Yoneyama, Yoshida et al. and Helms et al. have been discussed above in regard to claims 1-2 and 8-9. Regarding claims 4-6, the difference between Yoneyama, Yoshida et al. and Helms

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et al. and the claimed invention is that Yoneyama, Yoshida et al. and Helms et al. do not teach receiver-initialization complete signal and transmit-initialization-complete message. Batey, Jr. et al. teaches in FIG. 10 an algorithm for power level setting including steps "receive ACK?" (1008) and "save power level" (1116). That is, Batey, Jr. et al. teaches that when a remote receiver successfully receives a query message, it triggers the remote transmitter to generate an acknowledgement which ends the power level setting algorithm and the local transmitter generates a complete signal to save the power level in a controller. One of ordinary skill in the art would have been motivated to combine the teaching of Batey, Jr. et al. with the modified power level setting method of Yoneyama, Yoshida et al. and Helms et al. because such procedure indicates the success of power level search algorithm and stores the outcome of the search algorithm. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send acknowledgement message to transmitter from remote receiver to indicate success of power level search and to store search result, as taught by Batey, Jr. et al., in the modified power level setting method of Yoneyama, Yoshida et al. and Helms et al. because such procedure indicates the success of power level search algorithm and stores the outcome of the search algorithm.

Regarding claims 10-11, Yoneyama teaches in FIG. 12 that the power level setting operation can be applied to light transmitter 20 as well as light transmitter 50.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama, Yoshida et al., Helms et al. and Batey, Jr. et al. as applied to claims 4-6 and 10-11 above, and further in view of Suzuki et al. (U.S. Patent 5,517,608).

Yoneyama, Yoshida et al., Helms et al. and Batey, Jr. et al. have been discussed above in regard to claims 4-6 and 10-11. The difference between Yoneyama, Yoshida et al., Helms et al. and Batey, Jr. et al. and the claimed invention is that Yoneyama, Yoshida et al., Helms et al. and Batey, Jr. et al. do not teach to set the power level above the power level at which power-level message is first received. Suzuki et al. teaches in FIG. 4-5 an algorithm for determining a power level. Suzuki et al. teaches in col. 7, lines 40-42 to set a level slightly higher than the value determined by the algorithm to give a little margin. One of ordinary skill in the art would have been motivated to combine the teaching of Suzuki et al. with the modified power level setting method of Yoneyama, Yoshida et al., Helms et al. and Batey, Jr. et al. because the approach of Suzuki et al. gives a margin for power level variation due to temperature and aging of laser diode. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to set power level slightly higher than value determined by a test, as taught by Suzuki et al., in the modified power level setting method of Yoneyama, Yoshida et al., Helms et al. and Batey, Jr. et al. because the approach of Suzuki et al. gives a margin for power level variation due to temperature and aging of laser diode.

Response to Arguments

6. Applicant's arguments filed 7 February 2005 have been fully considered but they are not persuasive.

Regarding claims 1, 8 and 9, the Applicant argues that the combination of references neither shows nor suggests transmission of an output power code indicative of an output power level in the same message for which the power level is set. The Examiner disagrees. Yoneyama discloses in FIGs. 5-8 a method for setting power level for a transmitter based on information

about power level measured at remote receiver wherein the power level information is carried over a feedback channel. Yoneyama further explains in FIG. 9 that the feedback channel is just a channel in a transmission system in opposition direction of the first transmission system of FIG.

5. Yoshida et al. teaches in col. 2, lines 3-41 that it is not desirable to transmit excessive power due to laser diode lifetime and safety considerations. Yoshida et al. teaches in FIG. 4 and FIG. 5 to send test data of increasing power level to remote receiver until a positive feedback is received from the remote receiver. Helms suggests in FIG. 3 to send data about power level of output laser beam to remote receiver in feedback power level control system. Therefore, the combination of Yoneyama, Yoshida et al. and Helms teaches all the limitation of claims 1, 8 and 9.

The Applicant argues that Helms teaches an extra channel and requires extra circuitry to accomplish the communication of power information. However, the rejection does not rely on such teaching.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, Yoshida et al. teaches in col. 11 lines 32-34 that the transmitter increases the power value if an optical signal is not returned within a certain time period. Helms suggests in FIG. 3 to send data about power level of output laser beam to remote

receiver in feedback power level control system. This approach allows the transmitter to shorten the time period between successive signals of increasing power level because it provides a correlation between the acceptable received power level and the corresponding transmitting power level. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send transmitter power level in the sequence of messages with increasing power level, as taught by Helms, in the modified power level setting method of Yoneyama and Yoshida et al. because it allows the correlation between the transmitter power level and received power level so that the transmitter can correctly set the power level.

Regarding claim 3, the Applicant argues that Suzuki does not show nor suggest "setting the selected power level a selected quality above the power level at which the power-level message is first received". The Examiner disagrees. Suzuki et al. teaches in col. 7, lines 40-42 to set a level one or two steps higher than the value determined by the algorithm to give a little margin. Therefore, Suzuki et al. teaches setting the selected power level a selected quality above the power level at which the power-level message is first received.

The Applicant argues that no evidence is provided to indicate that the Yoneyama-Yoshida-Helms combination does not provide any margin for power level variation due to temperature and aging of laser diode. However, if the Yoneyama-Yoshida-Helms combination does provide margin for power level variation due to temperature and aging of laser diode, claim 3 is obvious in view of the combination and is not patentable.

Regarding claim 4, the Applicant argues that neither Batey nor the Yoneyama-Yoshida-Helms combination teaches or suggests the limitations. The Examiner disagrees. Batey, Jr. et al. teaches in FIG. 10 an algorithm for power level setting including steps "receive ACK?" (1008)

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and "save power level" (1116). That is, Batey, Jr. et al. teaches that when a remote receiver successfully receives a query message, the remote transmitter generates an acknowledgement which ends the power level setting algorithm and the local transmitter generates a complete signal to save the power level in a controller.

The Applicant argues that the alleged motivation for combining teachings of Batey with the Yoneyama-Yoshida-Helms combination is conclusory and improper. The Examiner disagrees. One of ordinary skill in the art would have been motivated to combine the teaching of Batey, Jr. et al. with the modified power level setting method of Yoneyama, Yoshida et al. and Helms et al. because such procedure indicates the success of power level search algorithm and stores the outcome of the search algorithm. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to send acknowledgement message to transmitter from remote receiver to indicate success of power level search and to store search result, as taught by Batey, Jr. et al., in the modified power level setting method of Yoneyama, Yoshida et al. and Helms et al. because such procedure indicates the success of power level search algorithm and stores the outcome of the search algorithm.

Regarding claim 7, the Applicant applies the same argument for claim 4, which has been addressed above.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. R. Sedighian
M. R. SEDIGHIAN
PRIMARY EXAMINER

skl
4 May 2005